

CLAIMS

What is claimed is:

1. A device for preventing closure of a surgically created resection cavity within tissues of the body comprising:

an insertion member having a distal end for insertion into a surgically created resection cavity and a proximal end which remains outside the resection cavity and a lumen extending between the proximal and distal ends; and

an inflatable member deployable from the distal end of the insertion member, an inner chamber of the inflatable member being fluidly coupled to the lumen to receive an inflation fluid therefrom so that, when the inflation fluid is supplied to the inflatable member, the inflatable member expands so that an outer surface of the inflatable member contacts the surrounding tissue and moves the surrounding tissue out of the resection cavity.

2. The device according to claim 1, wherein the insertion member is a balloon catheter.
3. The device according to claim 1, wherein the inflatable member is a balloon insertable through the insertion member in a deflated configuration.
4. The device according to claim 1, further comprising a luer at the proximal end adapted to introduce inflation fluid to the inflatable portion via the lumen.

5. The device according to claim 1, further comprising a port at the proximal end adapted to introduce a radioactive seed into the inflatable portion via the insertion member.
6. The device according to claim 1, wherein the inflatable member further comprises a retention layer formed on the outer surface to retain a therapeutic agent thereon and dispense the therapeutic agent at a selected rate.
7. The device according to claim 6, wherein the retention layer is a polymeric coating.
8. The device according to claim 6, wherein the therapeutic agent is paclitaxel.
9. The device according to claim 1, wherein the inflatable member is a substantially spherical balloon.
10. The device according to claim 1, wherein the inflatable member further comprises a plurality of perforations in at least a portion of the outer surface so that a therapeutic agent may pass through the perforations to an outside of the inflatable member.
11. The device according claim 11, wherein the inflatable member comprises an inner inflation fluid chamber and an outer therapeutic agent chamber and wherein the inflation fluid chamber and the therapeutic agent chambers are sealed from one another, the perforations communicating the therapeutic agent chamber to an exterior of the inflation member.
12. A surgical tissue separator comprising:
 - an expandable portion insertable in a surgically created body cavity; and
 - a catheter portion adapted to position the expandable portion in the cavity, the expandable portion being deployable from the catheter portion;

wherein the expandable portion expands to contact inner surfaces of the cavity to prevent the inner surfaces from healing together.

13. The tissue separator according to claim 12, further comprising a lumen of the catheter portion connected to the expandable portion.
14. The tissue separator according to claim 12, wherein the expandable portion is an inflatable balloon.
15. The tissue separator according to claim 12, wherein an inflation fluid flows through the catheter portion into the expandable portion.
16. The tissue separator according to claim 12, further comprising a coating of the expandable portion adapted to time release a therapeutic compound to tissue surrounding the expandable portion.
17. The tissue separator according to claim 16, wherein the therapeutic compound includes a chemo-therapeutic agent.
18. The tissue separator according to claim 17, wherein the chemo-therapeutic agent comprises paclitaxel.
19. The tissue separator according to claim 16, wherein the coating is a polymeric coating adapted to encapsulate the therapeutic compound.
20. The tissue separator according to claim 12, wherein the expandable portion is a radiation therapy balloon.

- 21.** The tissue separator according to claim 20, wherein the balloon is adapted to receive a radioactive seed therein through the catheter portion.
- 22.** The tissue separator according to claim 12, wherein the expandable portion is substantially spherical.
- 23.** The tissue separator according to claim 12, wherein the expandable portion is sized to fill a lumpectomy resection cavity.
- 24.** A method of treating tissue surrounding a surgically created resection cavity, comprising the steps of:
- after a portion of tissue has been surgically removed to create a resection cavity, inserting a distal end of a catheter into the resection cavity;
 - deploying an inflatable element at a desired location within the resection cavity from a distal portion of the catheter;
 - inflating the inflatable element to contact inner surfaces of the resection cavity and maintain tissue surrounding the resection cavity in a position substantially corresponding to a position of the tissue prior to the creation of the resection cavity to prevent closure of the resection cavity by healing processes during a recovery period; and
 - after the recovery period, treating the tissue surrounding the resection cavity.

- 25.** The method according to claim 24, further comprising providing a time released therapeutic agent to at least a portion of the tissue surrounding the resection cavity during the recovery period.
- 26.** The method according to claim 25, wherein the therapeutic agent is provided via the inflatable element.
- 27.** The method according to claim 26, wherein the therapeutic agent is time released from a coating formed on an outer surface of the inflatable element.
- 28.** The method according to claim 25, wherein the therapeutic agent includes paclitaxel.
- 29.** The method according to claim 24, wherein, after the recovery period, the tissue surrounding the resection cavity is treated with radiation therapy by inserting a radioactive seed into the inflatable element.
- 30.** The method according to claim 24, wherein the inflatable member is inflated by the introduction of at least one of saline solution and contrast media thereinto.